



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246



D5811-3

Job Sheet 207557



POSITIVE RECALL

EFFECTIVE 3/13/20 AUTH M. Lee

RELEASED DATE

Part No: D5811-3

Job Qty: 2 pcs

Part Name: Front Rim



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/27/20

Job Tracking No:

Due Date: 4/27/20

Created By: Jennifer Renwick

Type: Stock

Description:

Note: URF 2020-525 DWG D5811 Rev.A IPP Rev. A 2020.01.30 New issue DP Verify DD

Ship Via:

## Bill of Materials

## Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Hrs	Run Hrs	Workcenter/Supplier		Sign-off
							Workcenter / Supplier	Lead Time	
100	Large Fab - Basket - 1	2 pcs	4/27/20	4/27/20	0.00	0.50	Large Fab - 1		M. Lee
							Large Fab - 10		
							Large Fab - 2		
							Large Fab - 3		
							Large Fab - 4		
							Large Fab - 5		
							Large Fab - 6		
							Large Fab - 7		
							Large Fab - 8		
							Large Fab - 9		
							Large Fab - 11 (Various)		
							Large Fab - 12		
110	QC 5	2 pcs	4/27/20	4/27/20	0.00	0.00	QC 5 - 10		M. Lee
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 56		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

Container No: S263825



Part: D5811-3

Job No: 207557

Serial No/Batch: S263825

Revision: A

Inspector:

Exp Date:

Instructions:

Date: 03/16/20

DA:

40

9-89

MAR 17 2020

120 Packaging 3-1 - Stock - B4B 2 pcs	4/27/20	0.00 0.00	Packaging 3 - 1 - B4B	
			Packaging 3 - 2 - B4B	
			Packaging 3 - 3 - B4B	
			Packaging 3 - 4 - B4B	
			Packaging 3 - 5 - B4B	
			Packaging 3 - 6 - B4B	
			Packaging 3 - 7 - B4B	
			Packaging 3 - 8 - B4B	
			Packaging 3 - 9 - B4B	
			Packaging 3 - 10 - B4B	
			Packaging 3 - 11 - B4B	MAC
			Packaging 3 - 12 - B4B	
			Packaging 3 - 13 - B4B	
			Packaging 3 - 14 - B4B	
			Packaging 3 - 15 - B4B	
			Packaging 3 - 16 - B4B	
			Packaging 3 - 17 - B4B	
			Packaging 3 - 18 - B4B	
			Packaging 3 - 19 - B4B	
			Packaging 3 - 20 - B4B	
			Packaging 3 - 21 - B4B	
			Packaging 3 - 22 - B4B	
			Packaging 3 - 23 - B4B	
			Packaging 3 - 24 - B4B	
			Packaging 3 - 25 - B4B	
			Packaging 3 - 26 - B4B	
			Packaging 3 - 27 - B4B	
			Packaging 3 - 28 - B4B	
			Packaging 3 - 29 - B4B	
			Packaging 3 - 30 - B4B	
			Packaging 3 - 31 - B4B	
			Packaging 3 - 32 - B4B	
			Packaging 3 - 33 - B4B	
			Packaging 3 - 34 - B4B	
			Packaging 3 - 35 - B4B	
			Packaging 3 - 36 - B4B	
			Packaging 3 - 37 - B4B	
130 QC 21 - SA	4/27/20	0.00 0.00	QC 21 - SA - 21	
			QC 21 - SA - 70	
			QC 21 - SA - 53	

Part Op 100 - 1- Cut and drill stringer as per dwg 2- Deburr  
 Descriptions: 110 - QC5- Inspect part completeness to step on V/O  
 120 - Identify as per dwg & Stock Location:  
 130 - QC21- Final Inspection - Work Order: Release

## Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NTS0.750W.035	4130 Square Tube 0.750 X 0.035W	16.2200 ft (8.11 ea)	100-Large Fab - Basket - 1	5250794

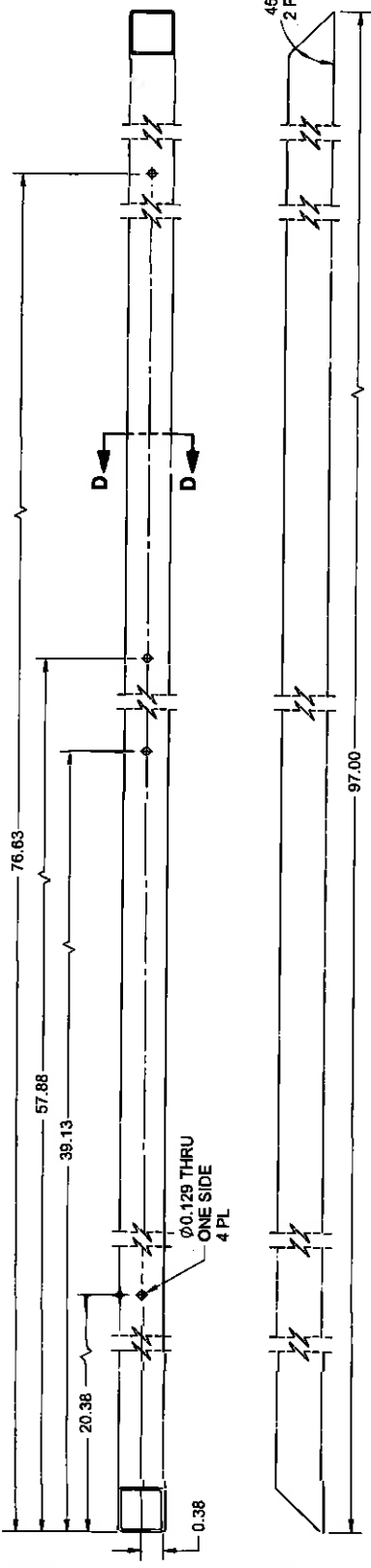
## Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Large Fab - Basket - 1	M4130NTS0.750W.035	16	324	0

## Part Specifications

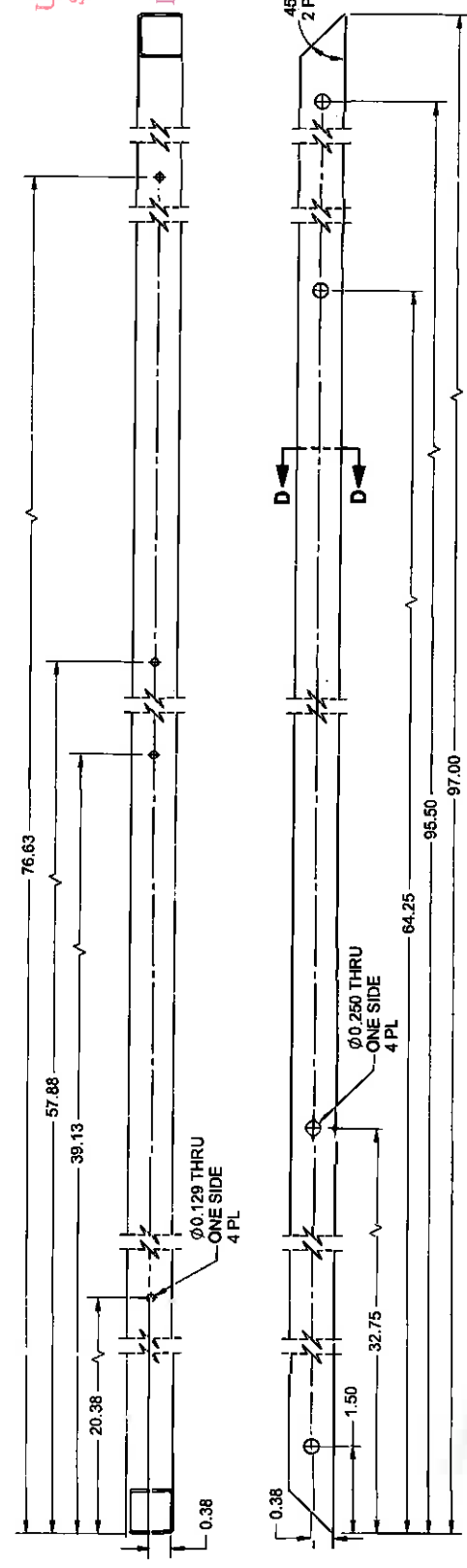
Specifications could not be found.

8 7 6 5 4 3 2 1



D5811-1 BACK RIM

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 201551  
MCS  
2003-12



D5811-3 FRONT RIM

UNDER REVIEW  
URF 2020-525 20.02.20 (NO)

NOTES:  
1) MATERIAL: AISI 4130N STEEL SQUARE TUBING, 3/4 X 0.035 WALL, PER MIL-T-6735 OR AMS 6571/6350/6361/6362/6373/6374  
REF DART SPEC M4130N-150.750W.035  
2) FINISH: NONE  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010  
6) IDENTIFICATION: NONE  
7) WEIGHT: -1/-3: 2.64 lbs

RELEASED  
2020 FEB 19

DESIGN	DRAWN	CHECKED	MFG. APPR.	DE APPR.	DATE	20.01.21
ZF	ZF	KPT	DD	CP		
DART AEROSPACE LTD	HAWKESBURY, ONTARIO, CANADA	DRAWING NO.	D5811	TITLE	XL LID ASSY	
REV. A	SHEET 3 OF 5	SCALE	NTS			





Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (813) 632-5200

# PURCHASE ORDER POHB045594



**Supplier:** FAC001-VU  
Factory Steel  
14020 Oakland Ave.  
Detroit, MI 48203 USA  
Phone: 313 883 6300  
Fax: 313 883 4883

**PO No:** POHB045594

**PO Date:** 1/16/20

**Due Date:** 2/4/20

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Phone:

**Via:** Ground

**Pymt Terms:** Net 30

**Freight Terms:**

**Special Comments:**

JAN 16 2020

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

## Items

Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M4130NTS0.750W.035			4130 Square Tube 0.750 X 0.035W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed		2/4/20	600 ft	0 ft	600 ft	\$7.25/ft	\$4,350.00
2		M4130NTS1.000W.065			4130 Square Tube 1.000" X 1.000" X 0.065"W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed		2/4/20	160 ft	0 ft	160 ft	\$11.70/ft	\$1,872.00
												<b>Grand Total: \$6,222.00</b>	

Plex 1/16/20 11:38 AM Dart.Lavoie,Chantal

# PACKING LIST

No. 67371

PG 1 OF 1

FACTORY STEEL & METAL SUPPLY 14020 OAKLAND AVENUE DETROIT, MI 48203		CUSTOMER PO POHBD45594		BUYER CHANTEL LAVOIE Tel (613) 632-3336 Fax (613) 632-4443		SHIP DATE 01/21/2020	
(313)883-6300 PHONE (313)883-4883 FAX		CUSTOMER JOB		SALES REP MICK HALON		SHIP VIA ****TRUCK****	
SOLD TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		SALES ORDER 60306		ORDER DATE 01/16/2020		RESALE # 59-2958719	
		SHIP TO DART AEROSPACE 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7		SHIP INST CALL WHEN READY		CARRIER TRUCK	
				PRO#		BLIND Y/N N	
				TERMS NET 30 DAYS		FOB DETROIT	

LINE	QUANTITY	DESCRIPTION	WIDTH	LENGTH	WEIGHT
1	609.917 FT	4130N CD SMLSS SQ TUBE 3/4" X .035W Tag Mill Ref # Heat 153513 023679 616506	Pcs Length 26 20' / 24' RL	20' / 24' RL Feet 609.917	207.554 Weight 207.554
2	171.333 FT	4130N CD SMLSS SQ TUBE 1" X .065W Tag Mill Ref # Heat 153514 072143 072067859	Pcs Length 7 22' / 23' RL	22' / 23' RL Feet 171.333	141.606 Weight 141.606
3	1 PCS	PACKING CHARGES MTRS (CIRCLE) FAX SHIPMENT INVOICE ALL DATE: _____ INITIAL: _____			

TOTAL WT 349 LBS									
RECEIVED BY - SIGNATURE			RECEIVED BY - PRINTED NAME			DATE RECEIVED			

LIWE (

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130 NTS 0.750 W. 035 PO / BATCH NO.: POMB045594  
 DATE: JAN 27 2020 5250794

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 609 PL  
 QUANTITY INSPECTED: 609 PL  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .750 W. 035  
 THICKNESS RECEIVED: .750 W. 035  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	MIL-T-6736
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	616506
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 12 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: _____	DAS	SIGNED OFF BY: _____	
DATE: <u>JAN 27 2020</u>	<u>52</u> 0.89	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

LIVE 1  
M4130NTS 0.750W.035

S250794

616506



DESIGN DH	DRAWN BY DH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED -H	APPROVED -H	DRAWING NO. M4130N-TS	REV. A SHEET 1 OF 1
DATE 05.02.09		TITLE 4130N SQUARE TUBING	SCALE NTS
A	05.02.09	NEW ISSUE	

PURCHASE MATERIAL:

AISI4130N STEEL SQUARE TUBING PER ONE OF  
THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371,  
6360, 6361, 6362, 6373 OR 6374

DAS  
82  
9-89

PART NUMBER: M4130N-TS | A.AAA | W | .TTT |

WHERE A.AAA = WIDTH IN INCHES  
TTT = WALL THICKNESS IN INCHES

EXAMPLE: 0.50" X 0.035" WALL = M4130N-TS0.500W.035

RELEASED  
05-02-09

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**PLYMOUTH TUBE CO.**

1268 East 12th Street, Streator, Illinois 61364  
Phone: (815) 673-1815 Fax: (815) 673-7345

TRUST YOUR SOURCE ACCEPT NO SUBSTITUTIONS



**PRODUCT CERTIFICATION**

SALES ORDER - LINE / RLS

175629 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C  
14020 Oakland Avenue  
Detroit, MI 48203  
USA

WORK ORDER 023679

PCS/HEAT 0

HEAT NUMBER 616506

MELT SOURCE Benteler Steel & Tube-Germany

CUSTOMER P.O. 3887	CUSTOMER PART SQ-N34035	QUANTITY	LADING NO	CERT ID / REV /	CERT DATE								
<b>PART DESCRIPTION</b> SHSQ0750035J300 ***** Square OD ***** Side1: 0.7500 Max:0.7600 Min:0.7400 Side2: 0.7500 Max:0.7600 Min:0.7400 Wall: 0.0350 Max:0.0380 Min:0.0320 Length: 10.00/26.00 Spec: MIL-T 6736B Seamless Aircraft Grade: 4130 Anneal: Cond N													
<b>CERTIFICATION REQUIREMENTS</b> FAR BAA (FAR 52.225-1 Buy America Act Supplies), DFARS 252.225-7001 Buy America Act & Bal. of Payments Program FAR TAA (FAR 52.225-5 Trade Agreements)(Paragraph 1,3,4,5)This material was tested and conforms to the requirements of ASTM A-450. The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640J and/or ASTM E-1444, and rated as Frequency, and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method. Additional Specifications - AMS-T 6736B, 6360P & 6371L. Material produced in accordance to ASTM A-519-17 and MIL-T 6736B. This material meets Plymouth ProMoly specifications. Jominy results: J(5/16")=45 J(8/16")=38													
<b>Chemical Analysis</b>													
C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn
.310	.55	.011	.002	.230	.036	.87	.18	.12	.001	.16	.002	.002	.010
<b>Physical Properties</b>													
Freq.	Severity	Grain Size											
.020	.015	9											
<b>Mechanical Properties</b>													
<b>TEST</b>	<b>UNITS</b>	<b>#TESTS</b>	<b>HIGH</b>	<b>LOW</b>	<b>AVERAGE</b>	<b>STD-DEV</b>							
Tensile	Psi	6	126660	125480	126065	482							
Yield	Psi	6	120930	119880	120387	374							
Elongation	%	6	21	20	20	1							
Rockwell C	Rc	6	25	25	25	0							
<b>TEST</b>	<b>RESULT</b>												
Decarb/OD	Pass												
Total ID/OD decarb	Pass												

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

*Janet Derosoff*  
Quality Assurance

①



**PLYMOUTH TUBE CO.**

1209 East 12th Street, Detroit, Michigan 48203  
Phone: (313) 873-1616 Fax: (313) 873-7343

**TRUST YOUR SOURCE. ACCEPT NO SUBSTITUTIONS!**



**PRODUCT CERTIFICATION**

SALES ORDER - LINE / RLS

175629 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C  
14020 Oakland Avenue  
Detroit, MI 48203  
USA

WORK ORDER 023679

PCS/HEAT 0

HEAT NUMBER 616506

MELT SOURCE Benteler Steel & Tube-Germany

CUSTOMER P.O. 3887	CUSTOMER PART SQ-N34035	QUANTITY	LADING NO	CERT ID / REV /	CERT DATE
PART DESCRIPTION SHSQ0750035J300					
<b>Additional Specification(s)</b>					
<u>TEST</u> Brinell	<u>UNITS</u> Brinell	<u>#TESTS</u> 6	<u>HIGH</u> 253	<u>LOW</u> 253	<u>AVERAGE</u> 253
			<u>STD-DEV</u> 0		
<p>This test report data is for the heat Chemistry Stated above.</p> <p>The material in this test report is:</p> <ol style="list-style-type: none"> <li>1) Drawn in the USA</li> <li>2) Free from Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), and Mercury contamination.</li> <li>3) NAFTA compliant.</li> </ol> <p style="text-align: center;">End of Certification</p>					

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Stretator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

*John A. Drossart*  
Quality Assurance

Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

Job: _____  Part No. _____		<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>		<b>DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Water Jet <input type="checkbox"/>            Supplier <input type="checkbox"/>            Quality <input type="checkbox"/> </div> </div>					
Date :		Sequence #:		QTY Affected :			MRB (QSI042)		
<b>Description Work Order Deviation</b>				<b>Disposition</b>				<b>Completed By</b>  <b>Lead hand / Supervisor</b>  <b>QC / QA Coordinator</b>	
<b>Root Cause</b>  Operator <input type="checkbox"/> Manufacturing Process <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Handling/Presservation <input type="checkbox"/> Material <input type="checkbox"/> Product Improvement <input type="checkbox"/> Process Improvement <input type="checkbox"/> Human Factors <input type="checkbox"/>		<b>FAULT CATEGORY</b> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced  <input type="checkbox"/> Bending  <input type="checkbox"/> Crushing  <input type="checkbox"/> Cracks  <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist  <input type="checkbox"/> Marks/Chatter  <input type="checkbox"/> Mislabeled         </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination  <input type="checkbox"/> Misaligned/off center  <input type="checkbox"/> BOM/Route  <input type="checkbox"/> Broken/Damage/Defect  <input type="checkbox"/> Incomplete/Unclear Instructions  <input type="checkbox"/> Drill Holes  <input type="checkbox"/> Fit/Function         </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Folio/Program  <input type="checkbox"/> Grain Direction  <input type="checkbox"/> Weld  <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Out of Sequence  <input type="checkbox"/> Off-set/Set-up         </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong  <input type="checkbox"/> Outside Tolerance  <input type="checkbox"/> Drawing  <input type="checkbox"/> Finish  <input type="checkbox"/> Part Lost/Missing  <input type="checkbox"/> Misread         </div> </div>							
		Other/Details:							